

**ABSTRACT OF THE DISCLOSURE**

A substantially laterally pressure-loaded panel has a side aspect ratio of at least 1.5, is formed of at least two reinforcement layers of substantially unidirectional fibers. The predominant orientations of the fibers form an angle of between about  $\pm 55^\circ$  -  $\pm 75^\circ$  (preferably about  $60^\circ$ ) with the longer side of the panel, with about one-half of the layers having a positive (+) angle and about one-half a negative (-) angle, within the range. The panel preferably has about 60-100% of its thickness formed by the reinforcement layers. The panels can be used in boat and/or shipbuilding structural panels, pressure-loaded tanks, pressure-vessels and other corresponding structures that are subjected to a lateral pressure load.